DOCUMENT RESUME

ED 232 637 IR 020 025

TITLE	Evolut. MicroSIFT Courseware Evaluation.
INSTITUTION	Northwest Regional Educational Lab., Portland, Oreg.
PUB DATE	Jun 82
NOTE	3p.; In its: MicroSIFT Courseware Evaluations (1-87), 1982. See ED 226 765.
PUB TYPE	Reports - Evaluative/Feasibility (142)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	Academically Gifted; *Computer Assisted Instruction; *Computer Programs; Evolution; *Genetics; High Schools; Microcomputers; Postsecondary Education; *Science Instruction; Simulation
IDENTIFIERS	Apple II; Apple II Plus; Courseware Evaluation; Microcomputer Software and Info for Teachers; PF Project; Software Evaluation; *Software Reviews

ABSTRACT

THE FOLLOWING IS THE FULL TEXT OF THIS DOCUMENT (Except for the Evaluation Summary Table): VERSION: Conduit Demonstration Package. PRODUCER: Conduit, P. O. Box 388, Iowa City, IA 52244. EVALUATION COMPLETED: June, 1982, by staff and constituents of the Portland Public Schools, Multnomah ESD, Oregon. COST: $30.00. ABILITY LEVEL: Post-secondary, high ability high school. SUBJECT: Biology, genetics: evolution, natural selection. MEDIUM OF TRANSFER: 5-1/4" flexible disk. REQUIRED HARDWARE: 48K Apple II or Apple II+, single disk drive. REQUIRED SOFTWARE: Applesoft, DOS 3.2.1. Note: The packages have a "double boot" feature so that they can be used with DOS 3.3. The packages will be converted for 3.3 in the future. INSTRUCTIONAL PURPOSE: Enrichment (for Secondary). INSTRUCTIONAL TECHNIQUES: Computer modeling, Simulation. DOCUMENTATION AVAILABLE: In the computer program: operating instructions and student instructions. In supplementary materials: instructional objectives, prerequisite skills or activities, sample program output, teacher's information, resource/reference information, and student instructions. A supplementary film is also available. INSTRUCTIONAL OBJECTIVES (Stated): 1. To understand the production of adaptations by the action of selection on random variations. 2. To understand adaptation to specific environmental conditions in relation to survival value. 3. To gain experience in manipulating models of selection acting on populations. INSTRUCTIONAL PREREQUISITES: 1. An elementary knowledge of genetics and, in particular, the meaning of: alleles, dominance and recessiveness, homozygotes and heterozygotes and gamete formation and fertilization. 2. An elementary knowledge of ecology. 3. An ability to calculate percentages and plot graphs. CONTENT AND STRUCTURE: "Evolut" is one of a series of units in biology being produced by Conduit. The package includes a diskette, student notes and a teacher's guide. The program produces charts and tables which display results of the mechanism of natural selection operating on various populations. Supplementary material introduces Darwin's Theory of Evolution, natural selection and variation with directions for student activities. The computer program extends student activities, providing a quick means of observing results over multiple generations and results when parameters of the selection mechanism are changed. Charts of populations and genetic frequencies may be obtained for as many generations as desired. ESTIMATED STUDENT TIME REQUIRED: Five hours. POTENTIAL USES: Evaluators indicated that this package would be appropriate for use in high school or college biology or genetics classes for generating results of pea breeding with two gamete types. MAJOR STRENGTHS: The computer shows results of pairings in genetics much more quickly than could be done by hand; textual material is very well coordinated with the computer program. MAJOR WEAKNESSES: Certain textual material is unclear (e.g., instructions for "power of selection," p.11); in the program, certain instructions are ambiguous, and the user must refer to textual material for choices of parameters for subsequent run-throughs; there is too heavy a reliance on numbers and charts, with no use of graphics (evaluators warn this will lose high school students); students require extensive preparation before being able to use the program productively; and while the materials are well coordinated, it would be too time consuming to use all of them. EVALUATION SUMMARY: Evaluators indicate they would not use or recommend use of this package. (Note Major Weaknesses for high school audiences.) (Author)

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Evolut

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P. O. Box 388
Iowa City IA 52244

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CONTENT AND STRUCTURE: "Evolut" is one of a series of units in biology being produced by Conduit. The package includes a diskette, student notes and a teacher's guide. The program produces charts and tables which display results of the mechanism of natural selection operating on various populations. Supplementary material introduces Darwin's Theory of Evolution, natural selection and variation with directions for student activities. The computer program extends student activities, providing a quick means of observing results over multiple generations, and results when parameters of the selection

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EVALUATION SUMMARY

SA	A	D	SD	NA	
•					Content is accurate.
	•				Content has educational value.
•					Content is free of stereotypes.
	•				Purpose of package is well defined.
	•				Package achieves defined purpose.
		•			Content presentation is clear and logical.
	•				Difficulty level is appropriate to audience.
			•		Graphics/sound/color are used appropriately.
		•			Use of package is motivational.
		•			Student creativity is effectively stimulated.
	•				Feedback is effectively employed.

SA	A	D	SD	NA	
	•				Learner controls rate and sequence.
	•				Instruction integrates with prior learning.
	•				Learning can be generalized.
	•				User support materials are comprehensive.
		•			User support materials are effective.
		•			Information displays are effective.
		•			Users can operate easily and independently.
		•			Teachers can employ package easily.
			•		Computer capabilities are used appropriately.
•					Program is reliable in normal use.

SA - Strongly Agree A-Agree D-Disagree SD - Strongly Disagree NA - Not Applicable

Evaluators indicate they would not use or recommend use of this package. (Note Major Weaknesses for high school audiences.)

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This evaluation is based on the evaluations of three or more reviewers who are representative of potential users of the courseware package.

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Evolut, continued

mechanism are changed. Charts of populations and genetic frequencies may be obtained for as many generations as desired.

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